

### **Amendments to the Claims**

This listing of claims will replace all prior versions and listings of claims in the subject application.

### **Listing of Claims:**

1. (currently amended): A wake up circuit comprising:

a comparison circuit configured to receive a first signal representative of a charging current level provided to a battery via a path and a second programmable signal representative of a predetermined wake up current level and to provide a comparison output signal in response to said first and second signals; and

an output decision circuit configured to receive at least said comparison output signal and a selector signal from a selector circuit, said output decision circuit is configured to provide one of said comparison output signal ~~and~~ or said selector signal to a switch to control the charging current level provided to said battery by controlling the ~~a~~ state of said switch—coupled to said path;

wherein said comparison output signal comprises an analog signal, said switch responsive to said analog signal to enter an intermediate conduction state to provide a current level to said battery representative of said predetermined wake up current level; and wherein said selector signal comprises a first state and a second state, said switch is responsive to said first state to enter a full conduction state and responsive to said second state to turn off said switch.

2. (cancelled)

3. (original): The wake up circuit of claim ~~2~~ 1, wherein said analog signal comprises a voltage signal, said switch comprising a field effect transistor having a gate terminal receiving said voltage signal.

4. (cancelled)

5. (previously presented): The wake up circuit of claim 1, wherein said output decision circuit is further configured to receive at least one additional input signal in addition to said comparison output signal and said selector signal, said at least one additional input signal being an enabling signal, said output decision circuit responsive to said enabling signal to provide said comparison output signal to said switch if said enabling signal is in a first state.

6. (previously presented): The wake up circuit of claim 1, wherein said output decision circuit is further configured to receive at least one additional input signal in addition to said comparison output signal and said selector signal, said at least one additional input signal being a battery voltage signal, said output decision circuit responsive to said battery voltage signal to provide said selector output signal to said switch if said battery voltage signal is representative of a voltage level of said battery greater than a threshold voltage level.

7. (previously presented): The wake up circuit of claim 1, wherein said output decision circuit is further configured to receive at least one additional input signal in addition to said comparison output signal and said selector signal, said at least one additional input signal being a maximum wake up charge time signal, said output decision circuit responsive to said maximum wake up charge time signal to provide said selector output signal to said switch if said maximum wake up charge signal is representative of a continuous time of said output decision circuit providing said comparison output signal exceeding a maximum time interval.

8. (previously presented): The wake up circuit of claim 1, wherein said comparison circuit comprises an error amplifier, said error amplifier is further configured to receive said first signal and said second signal and providing said comparison output signal.

9-12. (cancelled)

13. (currently amended): A method comprising:

generating a first signal representative of a charging current level provided to a battery via a path and a second programmable signal representative of a predetermined wake up current level;

comparing said first signal to said second signal;

generating an analog comparison output signal in response to said first and second signals;

generating a selector signal having a first state and a second state; and

controlling the conduction state of a battery charging switch using said analog comparison output signal or said selector signal to control a charging current level provided to a battery;

wherein if said analog comparison output signal is used to control said battery charging switch, said switch is responsive to said analog comparison output signal to enter an intermediate conduction state to provide a current level to said battery representative of said predetermined wake up current level; and wherein if said selector signal is used to control said battery charging switch, said switch is responsive to said first state to enter a full conduction state and responsive to said second state to turn off said switch.

~~providing a first signal to a switch, said switch coupled to a path, said path coupled to a battery, said switch responsive to said first signal to enter an intermediate conduction state to provide a first charging current level to said battery representative of a predetermined wake up current level; and~~

~~providing a second signal to said switch, said switch responsive to said second signal to enter a full conduction state when said second signal is in a first state said full conduction state providing a second charging current level to said battery.~~

14. (canceled)

15. (previously presented): The method of claim 13 [14], wherein said first signal comprises a voltage signal, said switch comprising a field effect transistor having a gate terminal receiving said voltage signal.

16. (canceled)

17. (Withdrawn): An apparatus comprising:  
a first path configured to be coupled to a controllable DC power source;  
a second path configured to be coupled to a battery;  
a third path configured to be coupled to a system load, wherein said first, second, and third paths are coupled to a common node;  
a first switch coupled to said first path to allow selective coupling of said controllable DC power source to said system load via said common node;  
a second switch coupled to said second path to allow selective coupling of said battery to said common node; and  
a wake up circuit comprising a comparison circuit and an output decision circuit, said comparison circuit is configured to receive a first signal representative of a charging current level provided to said battery via said second path and a second signal representative of a predetermined wake up current level of said battery and to provide a comparison output signal in response to said first and second signal, said output decision circuit is configured to receive at least said comparison output signal and a selector signal from a selector circuit, said output decision circuit providing one of said comparison output signal and said selector signal to said second switch to control the charging current level provided to said battery by controlling the a state of said second switch.

18. (Withdrawn): The apparatus of claim 17, said second switch responsive to said comparison output signal to enter an intermediate conduction state to provide a current level to said battery representative of said predetermined wake up current level.

**AMENDMENT B**

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19. (Withdrawn): The apparatus of claim 18, wherein said comparison output signal comprises a voltage signal, said second switch comprising a field effect transistor having a gate terminal receiving said voltage signal.

20. (Withdrawn): The apparatus of claim 17, wherein said second switch is in a full conduction state in response to said selector signal in a first state.